

TIGHT STRICTURES OF THE ESOPHAGUS IN CHILDREN, DUE TO LYE BURNS.

DR. GEORGE F. KEIPER, Lafayette, Indiana.

Permit me at the outset to qualify the title of this paper, to refer to those strictures of the esophagus which the general practitioner or surgeon is unable to dilate with the ordinary instruments at his command, after blind attempts. Because of this failure the case is referred to the laryngologist as a last resort before attempt is made to perform gastrostomy to relieve the patient of water hunger, which is always to be more feared than food hunger. A person may go forty days without food, but he cannot well survive three days of water hunger. In this connection I wish to reiterate all that I wrote in the paper read before the 1912 meeting of this society and refer to the excellent papers of Mosher and Jackson, subsequently presented on this subject.

The etiology of strictures of this sort lies primarily in gross carelessness. Too often concentrated lye in solution is left within easy reach of small children, after the kitchen sink has been cleaned. The inquisitive child proceeds to investigate the contents of the vessel containing the corrosive poison and very often drinks it. The usual distressing results follow invariably in a greater or less degree, and sooner or later the unfortunate little one experiences difficulty in attempting to swallow its food or drink. A thimble full of such solution is sufficient to cause stricture as in the case which I will report, and illustrate. These lyes and cleansers are corrosive poisons and if sold by a druggist he must affix the poison label with the skull and cross bones, as well as information as to the antidote to be administered in case of accidental poisoning. But the grocer next door sells them without these precautions and with impunity.

In the barn on the farm is usually found a medicine chest containing the remedies used in treating the live stock. In it is usually found a bottle of hydrochloric acid, which is used to burn warts off the legs of horses and cattle. It is usually within the reach of the children and in two instances in my practice the acid had been ingested by small children with resultant inanition; but for a wonder in neither instance was there a

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stricture formed. However, the mucosa of the stomach was in a large measure destroyed.

Haste in dilating strictures of the esophagus after the ingestion of the corrosive fluid is to be deprecated, for fear of producing perforation of the already softened esophagus, rendered thus by the chemical reaction of the poison upon its tissues. In fact the stricture does not form immediately after the accident. It may take several weeks to form it, before it is noticeable in the inability of the patient to swallow well.

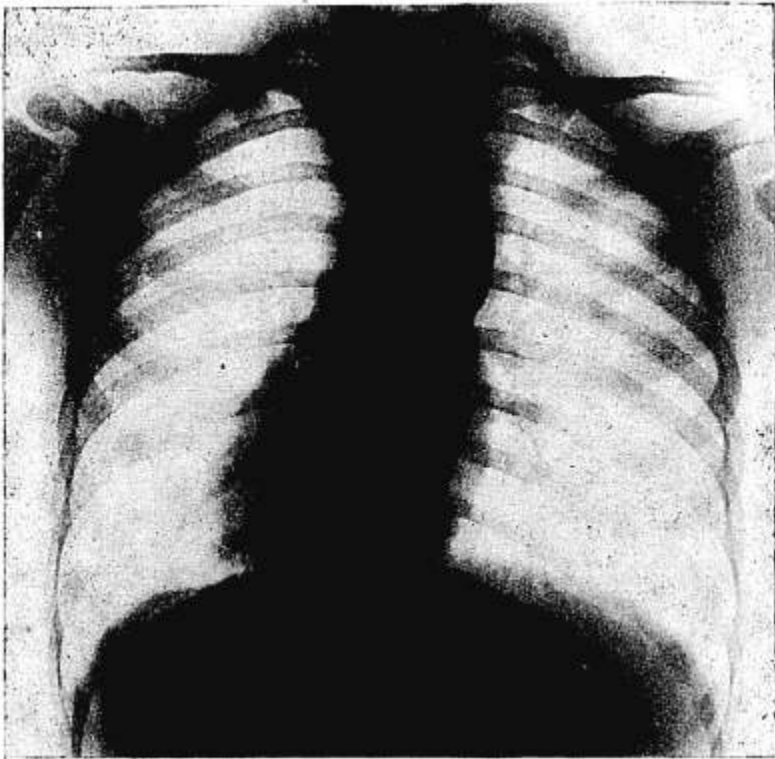
Again, no attempt should ever be made at bouginage until two sets of x-ray plates are made to locate accurately the site, extent and character of the stricture, one laterally and one anterior-posteriorly, and in each instance stereoscopically, after the patient has swallowed the usual bismuth mixture. These are absolutely necessary in order to obtain the information needed. Moreover, no bougie should ever be passed except under direct inspection through the illuminated esophagoscope in position. Blind bouginage is too dangerous a procedure. In thirty-four cases of cicatricial stricture, examined postmortem in the pathologic-anatomic institute in Vienna between the years 1877 and 1886, death was due to perforation by the bougie in no less than fourteen. In fact in the case reported it was impossible to pass the very small bougies without the illuminated esophagoscope in position.

As large an esophagoscope as possible should be passed, gently, in order to dilate the esophagus and thus render as easy as possible the location of the oftentimes the very narrow opening into the stricture. In all manipulations the utmost care and gentleness are to be observed. Above all things we must avoid sandpapering the gullet, to paraphrase a saying of the genito-urinary surgeons. All instruments are to be carefully annointed before introduction.

The great majority of these strictures occur in small children. Shall we give a general anaesthetic each time we introduce our instruments? Personally I believe such frequent anaesthesia to be highly dangerous. The normal esophagus has but very little sensation, and what shall we say of the esophagus damaged in whatever nerves of sensation that it possessed before the accident. We may need to make as many as sixty such dilations before we can dismiss the patient as cured.

The child is pinned in a sheet or blanket in such fashion that it will be unable to use or move hands or feet, in resistance to

the introduction of our instruments. The child is lain flat on the operating table while the assistant holds its head over the end of the table where the operator sits. A nurse holds the body of the child in position on the table. If the little one refuses to open the mouth for the introduction of the mouthgag, tickling the fauces with a fine probe introduced between the teeth will quickly cause the mouth to open. No anaesthetic, even local, is used in my practice. When once the child realizes what is



Skiagram of Esophageal Stricture.

demand of him or her, it is surprising how docile it becomes, and offers no resistance at all.

These strictures are often multiple and tortuous. For dilating the former the two-prong dilator of Jackson is valuable because it enables one to pick up the first stricture, dilate it and take the next one and each one in turn.

In dilating the tortuous and tight strictures I like to use the Jackson modification of the Guisez instrument, the flexible filiform on the end of the long steel staff. These are made in dif-

ferent sizes, graduated from the very smallest possible to a fairly large size, there being ten in the set. If the steel staff be perforated just where the filiform is attached to the staff a string can be passed through the hole and a good string-cutting esophagotome is produced, better than the string-cutting esophagotome of Jackson, which is a rigid instrument throughout and in cases like the one reported I have been unable to introduce through the stricture. Of course not much is gained by the use of such an instrument, but every little counts.

The report of the following case is rather typical of the usual run of these cases, pronounced impermeable by the general practitioner and surgeon, but which, to the laryngologist with illuminated instruments, offers abundant opportunity for doing great good to the unfortunate little sufferers.

June 10, 1917, Marshall D., age 3, of Pine Village, Indiana, was brought to my office, because he regurgitated his food and because he was losing flesh. Four months prior to this visit, he swallowed just a thimble full of lye solution, carelessly left within his reach, by his mother after she had cleaned the kitchen sink. Steps were immediately taken to neutralize the poison and seemingly were successful. However, for one month prior to his visit, it was noticed that swallowing was becoming difficult, and regurgitation of food more frequent.

He was immediately sent to St. Elizabeth Hospital for x-ray examination and two sets of plates were made as suggested above. The anterior-posterior plate I show, the other was lost. The latter is the more valuable because it shows the stricture to taper towards the backbone. With the information thus secured we proceeded to treatment. The child was pinned tightly in a sheet and laid on the operating table and held by one of the sisters while my assistant firmly held his head over the head of the table. In this position I passed a fairly large esophagoscope right down to the strictured portion. In looking down the illuminated tube I was able to locate the entrance into the stricture and was able to pass the smallest size Jackson Guisez instrument right into the stomach. The child was not anaesthetized at all, locally or generally. Then at frequent intervals larger and larger sizes were introduced until at the end of six months and after thirty such seances, I was able to pass the largest size, giving the patient ability to swallow with comparative ease, his food well masticated of course. Infrequent dilatations were made for three months longer, with the injunc-

tion to return with the least sign of returning trouble, for so many of these cases need subsequent help at long intervals of time. To date the child has had no further trouble.

At the second seance I attempted to pass Jackson's string-cutting esophagotome but failed. Then it occurred to me to perforate a filiform bougie as above and thus use the string in cutting the stricture. We succeeded admirably.

Such a result is possible in nearly every case of tight stricture of the esophagus. The prognosis in these cases is poor and the mortality high, if the patient is left untreated, or even if gastrostomy is performed for the purpose of making retrograde dilatation which, by the way, is a much more difficult procedure than what it appears to be from the descriptions of the operation at command.

Conclusions:—First: Laws should be enacted and enforced requiring the poison label to be attached to concentrated lye containers, as well as of the various cleansers on the market.

Second: No dilatation of the esophagus should ever be undertaken except under direct inspection.

Third: These cases afford the laryngologist to do a vast amount of good in a comparatively easy fashion.

TWO CASES OF FRACTURED SKULL; WITH SECONDARY MASTOIDITIS, MENINGITIS, AND, IN ONE CASE, BRAIN ABSCESS.

DR. JAMES MORISSET SMITH, New York.

The following cases were seen with Dr. William Sharpe at the New York Polyclinic Hospital. Both were fractured skulls involving the base with a secondary mastoiditis, meningitis and in one case a brain abscess.

Case 1. Man, age 43, white, cab driver, family and past history negative.

Present Illness: Fell from the seat of a hansom cab, October 31, 1917. Was picked up unconscious, bleeding from both ears.

Physical Examination: Well developed and nourished, plethoric individual. Unconscious and bleeding from both ears—blood mixed with cerebrospinal fluid. In state of shock—spinal puncture revealed blood under marked pressure. Reflexes exagger-